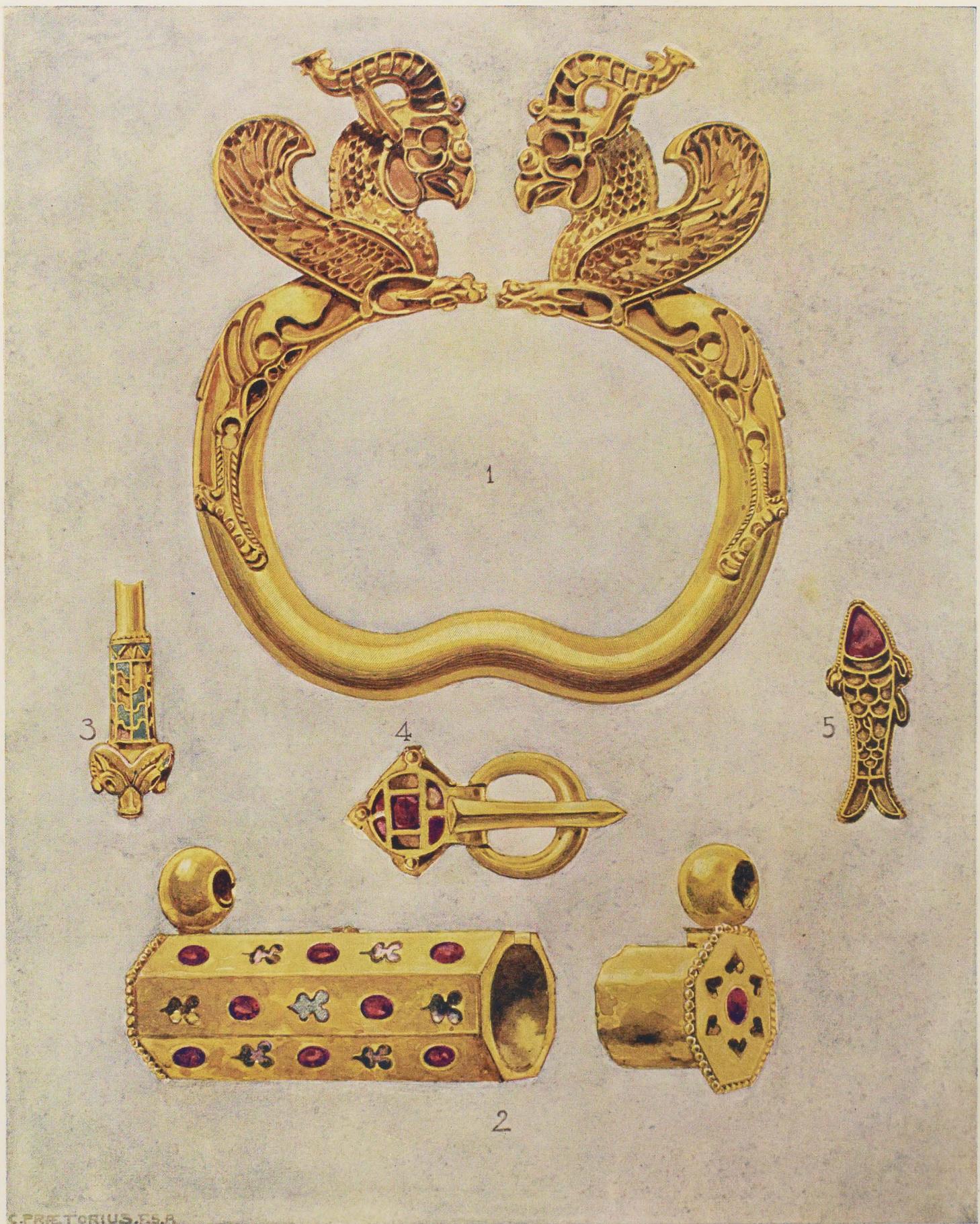


~~P X R B~~
~~£ 750~~

226



INLAID GOLD ORNAMENTS IN THE BRITISH MUSEUM (FULL SIZE).

Published by the Society of Antiquaries of London, 1902.

SOME POINTS IN
THE HISTORY OF
INLAID JEWELLERY.

O.M. DALTON



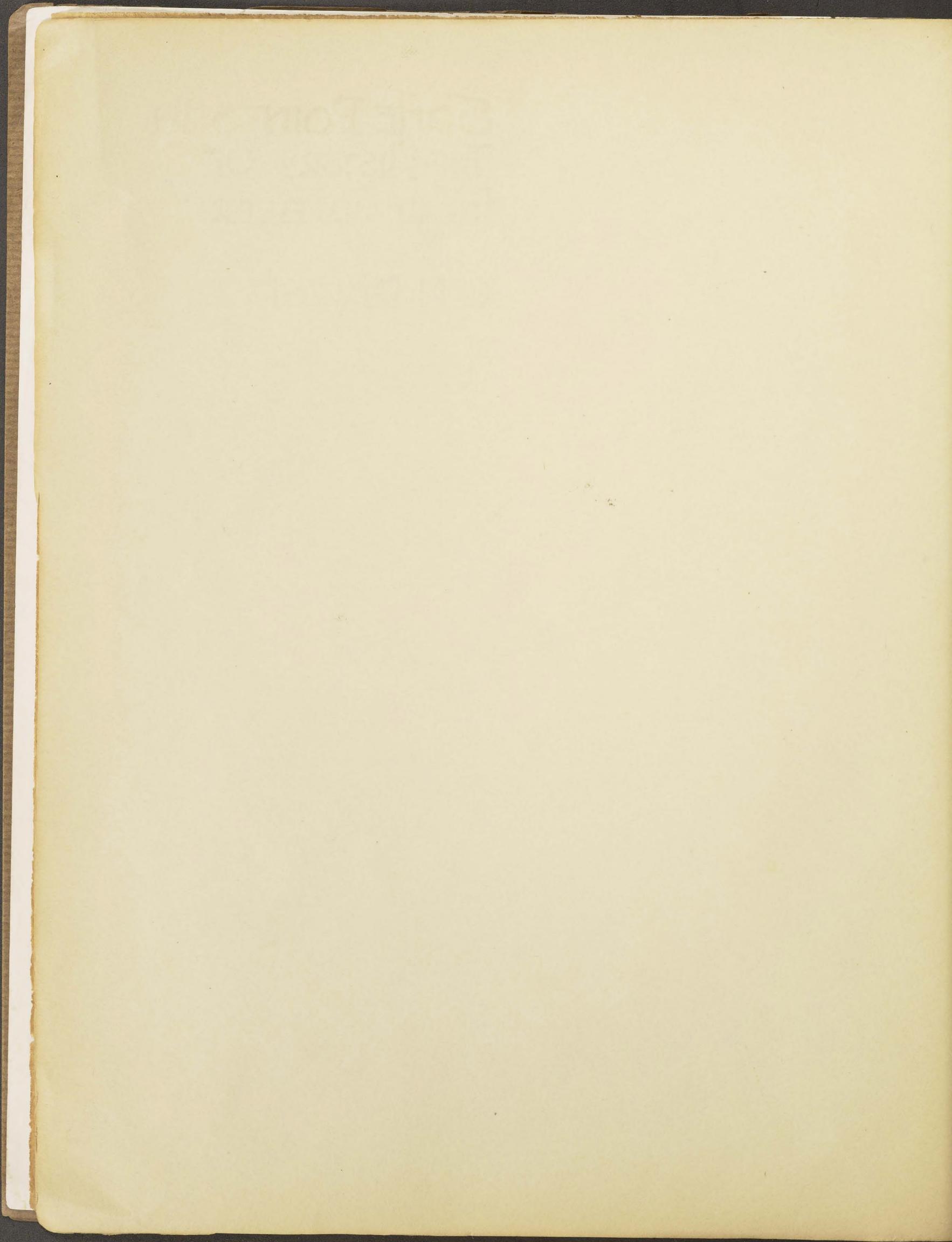
INLAID GOLD ORNAMENTS IN THE BRITISH MUSEUM

Published by the Society of Antiquaries of London, 1907.

JGL
BK004235

SOME POINTS IN THE HISTORY OF INLAID JEWELLERY.

O. M. DALTON



IX.—*On some points in the History of Inlaid Jewellery.* By O. M. DALTON, Esq.,
M.A., F.S.A.

Read 20th March, 1902.

THE Early Teutonic jewellery ornamented with garnets and glass pastes, frequently known as *Orfèvrerie Cloisonnée*, has been so extensively discussed that it may appear almost superfluous to draw attention to it once more. But the publication in the following pages of objects now in the British Museum will, it is hoped, supply fresh links in the chain of evidence connecting it with the East; for it is now universally agreed that this kind of jewellery entered Europe from Asia, and it is with examples of early date from that continent that we are here chiefly concerned. The principal aim of this Paper is to make better known the armlet from the Oxus, and the reliquary from Afghanistan reproduced by figures 1 and 2 of the accompanying coloured plate (Plate XVI.). But in considering these objects it has been difficult to avoid speculation as to the origin of the style of ornamentation which they represent. The early date and pronounced Persepolitan style of the armlet bring us nearer to Egypt than anything hitherto discovered in the East, and in view of these facts, we are tempted to revive the question whether the *Cloisonnée* jewellery of Central Asia can have been introduced from the banks of the Nile. The opposite theory, which regards this jewellery as indigenous in Asia, has probably the balance of opinion in its favour; but in the present state of our knowledge, its acceptance would appear to involve something of a dilemma. For on this view the great antiquity of the earliest Egyptian jewels in this style would compel us either to prove that their Eastern prototypes were in existence some three thousand years before Christ; or to suppose two independent centres of invention, one in Asia, the other in Africa, thus severing Egypt from all connection with the development of the art on the neighbouring continent. Time may remove the difficulties incident to these

alternatives, but at present neither of them is easy of acceptance. The perfection of the famous inlaid jewels of Dashur (figs. 1 and 1a), which belong to the twelfth dynasty (third millennium, b.c.), would make it necessary to assume from their rude Asiatic forerunners an almost fabulous antiquity. But so far as I am aware, neither Babylonia nor Assyria, Central Asia, or India, have as yet produced anything in this style of so remote a date; and though the early archæology of China is at present so little known that it may have many surprises in store, as matters now stand it is a legitimate inference that the Far East could hardly have exercised an artistic influence towards the West thirty centuries before the beginning of our era. The theory which derives enamelling from Asia, does not involve the same dilemma, because this was not one of the characteristic arts of Ancient Egypt.



Fig. 1. Inlaid gold *naos* from Dashur. After de Morgan.

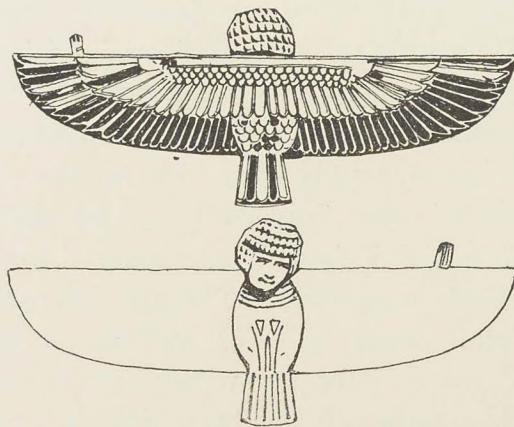


Fig. 1a. Inlaid "soul" from Dashur, in the possession of F. G. Hilton-Price, Esq.

It is a matter of common knowledge that brooches, buckles, sword-hilts, rings, and other objects of gold and bronze ornamented with flat slices of stone, usually garnet, or of glass pastes in imitation of it, have been found in great numbers in the cemeteries of the principal Teutonic tribes which succeeded to the inheritance of the Roman Empire. From England they can be traced back through France and Spain, Germany and Scandinavia, Northern Italy and Hungary to Southern Russia and the Caucasus. That the objects found in the countries furthest toward the East are earlier than those from the West is obvious from many indications, among others from the increasing degradation of zoomorphic designs which is apparent as we proceed from the Caucasus toward our own country. It is indeed universally accepted that of all the Teutonic tribes the

Goths were the first to make use of a new style of jewellery, and that they became acquainted with it during their sojourn to the north of the Black Sea from the third to the end of the fourth century A.D. By the close of the fourth century the new fashion had already superseded the enamels of the early Roman Empire, and by the fifth it had spread right across Europe, its presence in Merovingian France being attested by the splendid ornaments discovered in the tomb of Childeric I. (died 481), at Tournai in the middle of the seventeenth century.^a In our own country, which was among the last to receive the new fashion, this branch of the goldsmith's art reached its highest perfection in the seventh century, and is best represented by the finds in the county of Kent. After this period it rapidly declined throughout Europe, and by Carlovingian times had practically disappeared. As far as this continent is concerned, Southern Russia is the most important district which we have to consider, for it is here that this jewellery made its first appearance. With its subsequent development in Europe we are not directly concerned, but two small objects of European origin, both now in the British Museum, have been reproduced to illustrate the class (Plate XVI. figs. 4 and 5), one a Visigothic buckle from Spain, the other a brooch in the form of a fish, probably from the Rhine.^b Before proceeding to describe the objects under discussion it will be well to define the terminology to be employed and to touch upon their more prominent characteristics.

^a Cochet, *Le tombeau de Childéric Ier*, Paris, 1859. The objects found in this tomb are described in all books dealing with Teutonic jewellery. The sword is finely reproduced in Bock, *Kleinodien des heiligen Römischen Reichs*, pl. xlvi., and in Labarte, *Histoire des Arts industriels au Moyen age*, vol. i.

^b Among the numerous accounts of Teutonic inlaid jewellery, especially with regard to its passage across Europe, may be mentioned the following: C. de Linas, *Origines de l'Orfèvrerie Cloisonnée*, and *L'Orfèvrerie Mérovingienne*; J. de Baye, *Origine orientale de l'Orfèvrerie Cloisonnée et son introduction en Occident par les Goths*, *Compte Rendu du congrès international d'archéologie préhistorique et d'anthropologie*, Moscow, 1892, i. 353 ff.; other papers by the same author in various archaeological publications; Henszlmann, *L'âge du fer, étude sur l'art gothique*, *Compte Rendu*, as above (Buda Pesth, 1876); F. de Lasteyrie, *Histoire de l'Orfèvrerie* (Paris, 1875), 65 ff.; E. Molinier, *Histoire des arts appliqués à l'industrie*, vol. ii. *L'Orfèvrerie*, chapter I. M. de Lasteyrie's account has been reproduced with additional illustrations by M. A. Odobesco in his monumental work on the Treasure of Petrossa. Those unfamiliar with the general appearance of the typical inlaid jewellery of Western Europe may consult J. Y. Akerman, *Pagan Saxondom* (London, 1855); the early volumes of *Archaeologia Cantiana*; and H. Baudot, *Mémoire sur les sépultures des Barbares de l'époque Mérovingienne en Bourgogne* (Paris, 1860) in which volumes numerous coloured plates will be found. Many of the fine examples from the Caucasus now at St. Petersburg are figured by Kondakoff Tolstoi and Reinach, *Antiquités de la Russie Méridionale* (Paris, 1892).

The general term which will be used in this paper is "inlaid jewellery," which, although far from adequate as a description, may be provisionally adopted as a matter of convenience. Following a French usage, I had previously employed the word "incrustation," but this has been abandoned, as critics of judgment and experience have pointed out that the word would probably lead to a confusion of ideas. Various alternatives were at the same time proposed, some of which introduced terms descriptive of the art of mosaic, with which, especially the Roman *opus sectile*, this jewellery has technically points of resemblance. But an objection to this change is that as the goldsmiths usually relied for their effect upon the vivid contrast between the colour of the stones and that of the gold, and as the gold usually divides each individual stone from its neighbour, any such definition would ignore the constant and important part which is played by the intersecting metal divisions. A further objection, which equally applies to the usual French term *orfèvrerie cloisonnée*, is that a second variety of inlaid jewellery which has for centuries been united with the cloisonné type and has always been discussed in relation to it by the numerous writers on this subject, would not be covered by the definition. These two varieties which we shall shortly describe as cloisonné-and plate-inlaying respectively, are so indissolubly associated in the literature of the subject, that even were there no other grounds for maintaining the connection, it would be desirable to treat them together for the convenience of students alone.

By inlaying we here mean the ornamentation of the surface of an object with small slices of coloured stone or glass paste, applied without the intervention of heat; the process is thus essentially distinct from that of enamelling, to which, however, in some of its varieties it often bears a superficial resemblance. The ground to which the stones are attached, frequently by means of a mastic, is usually though not always flat, the finished jewel offering one or more plane surfaces which produce their effect upon the eye, not by varied relief or beauty of form, but by strong contrasts of colour. It is by its appeal, often by violent means, to the sense of colour rather than that of form, that inlaying is so unfortunately distinguished from Greek and from the better class of Roman goldsmiths' work; but when we condemn it as barbaric, we must remember that the objects on which we base our judgment are usually among the latest and most degraded specimens of a very ancient art. The base is made of metal, gold for choice, or in default of this, silver or gilt bronze; but we may notice in passing that inlaying has been applied in various countries and at different times to all kinds of materials. Gems have been inlaid in ivory, wood, onyx and jade;

wood in wood, and stone in stone ; but the coloristic principle is the same from the inlaid tiles of Persia and Spain, to the *pietra dura* of Florence, or the brass and tortoiseshell of Boulle. Of the two varieties of inlaid jewellery already mentioned, the first and most important, to which the term *orfèvrerie Cloisonnée* strictly applies, is that most frequently found among objects from Teutonic graves in Europe. Here the slices of stone or paste are inserted in contiguous cells applied as in the case of cloisonné enamel, and the name *cloisonné-inlaying* will therefore be appropriated to it, though the English words inlaid cell-work or cell-inlaying would have answered the purpose had the French term not been consecrated by long usage. In the second and less common method, which is best represented in Eastern Europe by the fibulæ of Petrossa, and in the West by the votive crown of the Visigothic King Svinthila (fig. 2), found in 1858 at Guarrazar, near Toledo, and now in the *Armeria Reale* at Madrid,^a the gold surface is itself pierced with holes of various shapes disposed in such a way as to form a diaper or simple design ; these holes are then filled with stones fixed in mastic and supported at the back by a second unperforated plate of gold. Speaking generally, the difference between this method and the preceding is analogous to that between plate-tracery in Gothic architecture and the bar-tracery which succeeded it. The architectural analogy is perhaps close enough to justify the description of this second method as *plate-inlaying*, and it is quite possible that in jewellery as in architecture, the simpler may be the earlier form. The point of transition between the two would be reached in cases where the holes cut in the upper plate are exceedingly numerous and occupy as much of the surface as the metal, so that the general effect approximates to that of work carried out by means of applied cloisons or partitions. It would seem reasonable to suppose that a goldsmith who had reached this stage might be naturally led to the discovery that

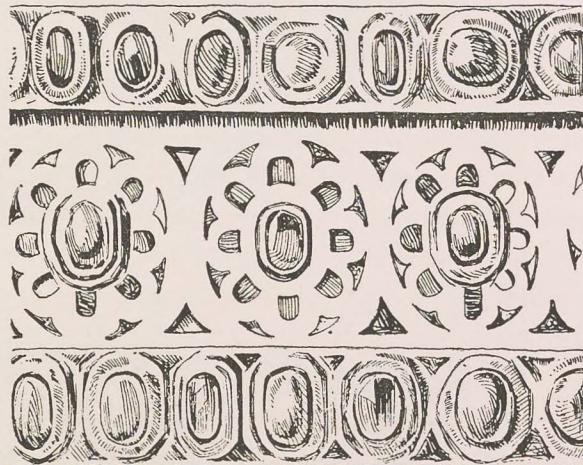


Fig. 2. Section of the Crown of the Visigothic King Svinthila.

^a Bock, *Kleinodien*, as above, pl. 37 ; F. de Lasteyrie, *Le Trésor de Guarrazar* (Paris, 1860) ; Molinier, *L'Orfèvrerie*, 12. The various crowns of Guarrazar, most of which are in the Cluny Museum at Paris, are mentioned in all books treating of barbaric jewellery.

work of finer quality and greater possibilities might be produced by abandoning the continuous sheet of metal and cutting it into strips placed edgeways between the stones. But examples of plate-inlaying, as above described, do not appear to have been found in Egypt, where, on this theory, they might be expected to occur; though objects such as the cedar axe-haft of the eighteenth dynasty in the Cairo Museum^a covered with a plate of gold in which carnelians and other stones are

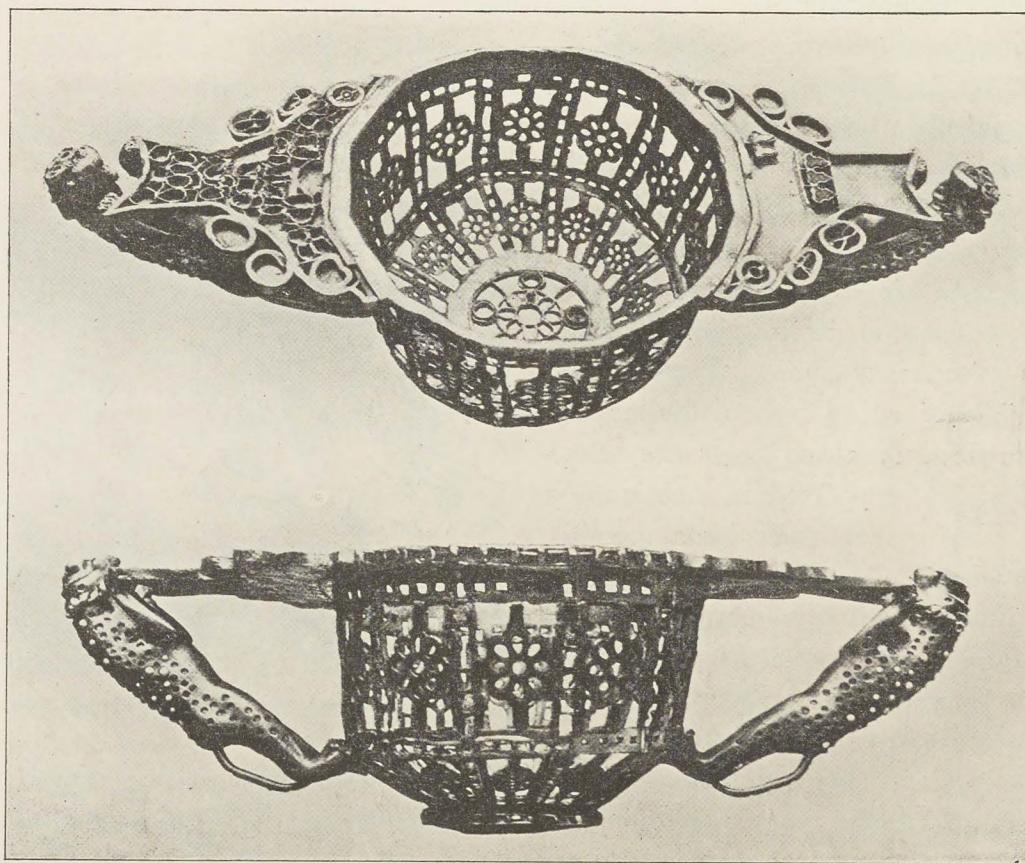


Fig. 3. Openwork vessels from Petrossa. After Odobesco, *Le Trésor de Pétrossa*.

inlaid so as to form hieroglyphs would seem to indicate a similar process: here, however, the inlaid plate has apparently no metal support at the back, but rests directly on the wooden haft. It is possible that further discoveries in Egypt and the East may finally decide whether cloisonné- and plate-inlay have been technically and historically related from the earliest times, or whether their

^a De Linas, *Origines de l'Orfèvrerie Cloisonnée*, i. 26.

association only dates from the early centuries of our era when they are found together in objects connected with the south of Russia.

Another variety of inlaying may be mentioned in this place, though we are not directly concerned with it. In this the metal is entirely in openwork, like the leading of an old-fashioned window, so that when the stones are inserted, the appearance is much the same on both sides. It thus resembles cell-work without a background, but it is necessarily stronger and coarser, the cells not being built up out of small strips, but formed from a continuous plate of metal. This style, which we shall call openwork inlay, is consequently less suited for jewels than for objects of a larger size, such as dishes and vessels, in the manufacture of which it has been used in the East both in ancient and modern times (fig. 3). Having now defined the meaning of the terms which it will be convenient to employ, we will proceed to the examination of the actual objects, without delaying to describe the discoveries by which the distribution of inlaid jewellery within the limits of Europe has been established, or to summarise the theories to which they have given rise. These tasks have already been performed and it is unnecessary to repeat them. There is, however, one author who deserves especial mention in this place, the French scholar, Charles de Linas, who devoted years of his life to the study of inlaid jewellery, and whose various publications, especially his *Origines de l'Orfèvrerie Cloisonnée*, though sometimes diffuse, are full of useful and suggestive facts. All those who have laboured after him in the same field, whether they agree with his conclusions or not, owe a lasting debt to his industry and insight.

In 1877 important discoveries of antiquities were made at a site variously reported as a ford near Takht-i-Kawât (Kuâd), between Khulm and Kabadian, and a spot a stage to the north of the Oxus on the route to Samarkand, and about two days' journey from Kunduz.^a They brought to light some 1,500 gold and silver coins, and a number of statuettes, plaques, rings, and ornaments of the same metals, the whole having probably been buried in the banks of the Oxus itself or of a tributary stream, and washed away at some time by a flood. If the objects were all deposited on a single occasion, we must assume that they constituted a family treasure acquired during a long series of years, for they are probably,

^a Cunningham, on "Relics from ancient Persia in gold silver and copper," in *Journal of the Asiatic Society of Bengal*, vol. 50, pt. 1 (1881) 151 ff., 52, pt. 1 (1883) 64 ff., 258 ff. Kondakoff, Tolstoi and Reinach, *Antiquités de la Russie Méridionale* (Paris, 1892), 284 ff. The place would thus be not far removed from the trade-route from India to the Caspian and Black Seas, which passed from Cabul to Balkh and thence to the Oxus.

like the coins, of different dates. Among these last were darics, pieces struck by the Satraps Tiribazus, Pharnabazus, Tiridates and Pharnaspes, tetradrachms of Athens, coins of Akanthus in Macedonia, Aspendus, Byzantium, and Tarsus, of Alexander the Great (about 200), Andragoras, Pixodarus of Caria, Lysimachus of Thrace, Seleukus Nikator, Antiochus I., II., III., Diodotus and Euthydemus. There were no Parthian coins, and none of Eukratides the contemporary of Mithridates I., the products of whose mints are not at all uncommon. The coins thus cover a period ranging between the end of the fifth or the beginning of the fourth century, and about 180 b.c., and these dates accord in general with the nature of the other objects, with which, however, are a few things of later period. It is very unfortunate that the circumstances attending the discoveries are imperfectly known; nevertheless, the style of their component parts is sufficiently marked to enable us to draw conclusions of considerable importance. It is perhaps useless to speculate as to the manner in which this treasure, commonly called the Treasure of the Oxus, reached this remote part of Asia. It has been suggested that the greater part was hidden by some prince or chief who went to join the army of Euthydemus against Antiochus the Great, and never returned to recover his property.

Among the earlier and finer objects composing the treasure, are two massive gold penannular rings^a with winged monsters at the ends and incurved backs, the form suggesting that they were intended to be held in the hand and not worn upon the wrist. Their shape and elaborate execution would ill adapt them for actual wear, though simpler armlets^b of this shape have been found at Amathus in Cyprus, and on various other sites; they may have been the funeral ornaments of some great personage or else objects of a ceremonial nature. The monuments show that rings were used ceremonially in Assyria and Persia, and it may be remembered that annular and penannular rings with the same peculiarities of form have been found at various bronze-age sites in Europe, especially at Morges and Thonon on the Lake of Geneva; while other prehistoric examples are preserved in the museums of Brunswick and Turin.^c They have always been regarded as

^a Now in the British Museum and the Victoria and Albert Museum respectively. First published by Mr. (now Sir George) Birdwood in *The Illustrated London News* soon after their discovery.

^b In the British Museum.

^c Desor et Favre, *Le bel âge du bronze en Suisse*, c. xi. p. 24; Chantre, *L'âge du bronze*, i. 173 ff.; Lindenschmit, *Alterthümer unserer heidnischen Vorzeit*, iv. pl. 43; R. Monro, *The Lake Dwellings of Europe* (London, 1890), 531; G. and A. de Mortillet, *Le Musée préhistorique*, pl. lxxxix. No. 1069 (after Gastaldi, *Frammenti di paletnologia Italiana*, pl. xii. fig. 1); Odobesco, *Le Tresor de Pétrossa*, 453 ff., where the ceremonial use of rings is discussed at some length.

ceremonial objects, and are usually known as *Schwurringe* it having been suggested that they are analogous to the *armilla sacra* which the ancient Germans held in their hands when about to swear a solemn oath. Now the affinities of the Oxus armlets are unmistakable. They are Persepolitan, and such work can only have been produced under the Achaemenid Kings of the fourth or even the fifth century B.C. The modelling of the monsters, which, though not strictly gryphons, may, for the sake of brevity, be described by that name, is exactly that rendered so familiar to us on the carved reliefs of Persepolis (fig 4), and a glance at any illustrated work in which those sculptures are reproduced,^a will at once reveal the identity of treatment. This is especially marked in the case of the limbs, wings, and horns; while more distant analogies from earlier Asiatic art may be seen among the carved slabs from the Assyrian palaces in the British Museum. The importance of this early origin lies in the certainty which it affords that inlaid cloisonné jewellery was being made at this remote date, if not in Persia, at least in Bactria under the strongest Persepolitan influence. The presence in the Oxus Treasure of other objects of undoubted Iranian origin, as well as the general considerations already adduced, are in favour of Persia itself. Hitherto the earliest Persian

jewel ornamented with inlaid stones, has been the gold girdle-plate of the early Sassanian period found at Wolfsheim (fig 16), which is an example of plate-inlaying and not of cloisonné-work in the proper sense; but we now have a monument made in Persia ornamented with inlay in the Egyptian manner, some six hundred years earlier in date than the Wolfsheim jewel. We cannot definitely assert that the inspiration came ultimately from Egypt, for similar cloisonné jewels from intermediate countries have yet to be discovered. Assyria has so far proved barren, and it has still to be proved that jewellery of purely native manufacture in this style ever existed. But there is ground for the belief that inlaid ornaments

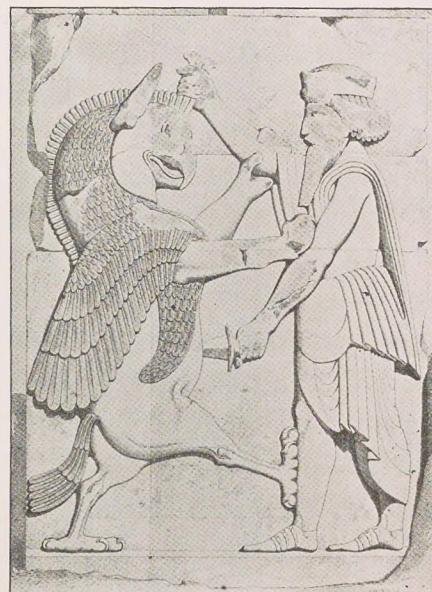


Fig. 4. Scene representing a mythological Combat, at Persepolis. After Flandin et Coste.

^a e.g. Flandin et Coste, *Voyage en Perse*, iii. pls. 123, 151, 152, 157, 164; Perrot and Chipiez, *History of Art in Persia*, i. 145 (English edition). For the mythological combat, see Dieulafoy, *L'art antique de la Perse*, iii. 81.

not very different in kind from Egyptian originals may have been introduced into the Assyrian Empire as early as the ninth century B.C., and that if native craftsmen failed to produce similar work, it was not for want of accessible models. These may have lacked the fine quality of the best Egyptian models, but they would be sufficiently attractive to invite imitation, and it is not impossible that at the time of Sargon and his successors, similar work may have been executed in the country.^a

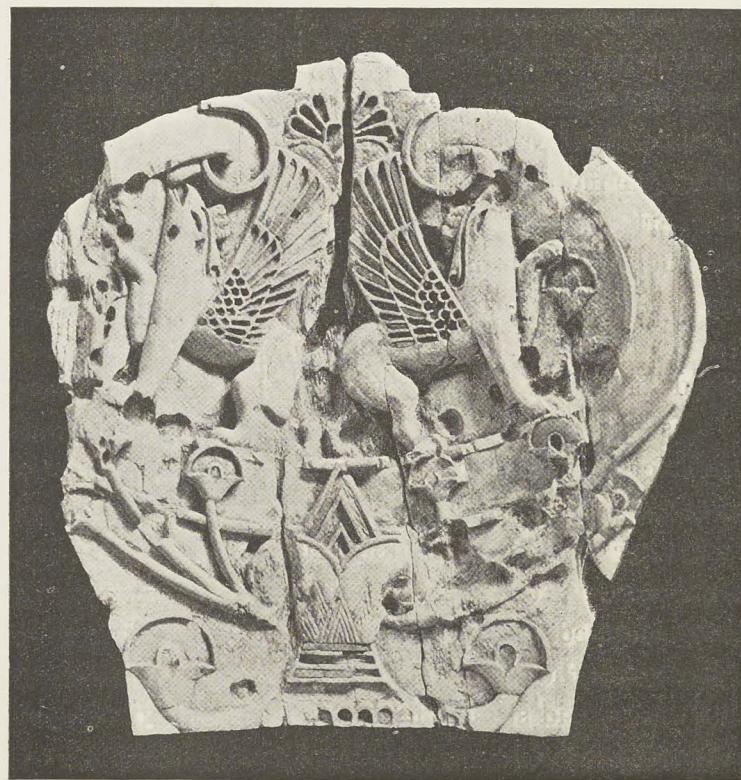


Fig. 5. Ivory carving from a throne, formerly gilt and inlaid with lapis lazuli, from Nimrûd. In the British Museum.

The discovery by Sir Henry Layard of the well-known inlaid ivories at Nimrûd provide substantial proof of this early importation. In a chamber in the North West Palace, that is to say the earliest of the three palaces in the city, built by Ashur-nasir-pal (885—860 B.C.), he discovered a number of finely-carved panels in which, among subjects of an Asiatic character, are reproduced

^a For various speculations on the nature of Assyrian jewellery at this period, see de Linas, *Origines*, i. 44-72.

many purely Egyptian designs. Among these are, for instance, an Egyptian woman holding a lotus flower, and standing beneath a winged disc; Egyptian personages seated on inlaid thrones; a carving from a throne with two gryphons (fig. 5), and a small panel with the raised and inlaid figure of a beetle, the type of the Egyptian god Khepera (fig. 6). Now the inlaid parts of these carvings are cut into imbrications and fine cells reserved in the ivory, the cavities having been originally filled with lapis lazuli and the parts remaining in relief gilded. The whole character of the work shows how close and intimate the connection of Egypt and Assyria must have been at this early time, yet they are not purely Egyptian, but made by imitators of Egyptian models.^a Whether or not these imitators were Phoenicians is not material to our present purpose; the important



Fig. 6. Inlaid figure of a beetle from Nimrûd. In the British Museum.

point is that their work supplies a possible link bringing the Oxus armlet into connection with the inlaid pectorals and other Egyptian jewels,^b now preserved at

^a For other early work in ivory from Praeneste, Chiusi, and Veii, see W. Helbig, in *Annali dell' Instituto di Corrispondenza Archeologica*, xlix. (1877) 398 ff., and li. (1879) 5 ff.; *Monumenti inediti* of the same Institute, x. pl. 38 and figs. 1 and 1a, and xi. pl. ii. figs. 1-6; R. Garrucci, *Archaeologia*, xli. (1867) 187 ff. For remarks upon such early ivories, see also A. J. Evans, *Journal of the Anthropological Institute of Great Britain and Ireland*, xxx. (1900) 200. Examples of the hybrid art to which the Nimrûd ivories belong will be found in Perrot and Chipiez, *History of Art in Phoenicia and its Dependencies*, ii. 338 ff. and 402 (London, 1885).

^b J. De Morgan, *Fouilles à Dahchour* (Vienna, 1895), pl. xv. xvi. xix-xxi. Perrot and Chipiez, *History of Art in Ancient Egypt* (English edition, London, 1883), ii 381, and figs. 311-313.

Cairo and in the great European Museums. For when we consider what the appearance of these ivories must have been when the gilding and the inlay were intact, it is easy to believe that they were imitations in another material of the class of inlaid gold ornaments of the twelfth and nineteenth dynasties best represented by the Dashûr jewels (fig. 1), by the pectoral of Queen Aah-hetep at Cairo, and by that of Kha-em-uas, son of Ramses II. in the Louvre; the close imitation of Egyptian designs and cartouches, as well as the employment of a characteristic Egyptian technique, place some such a connection beyond all doubt. Nor is there anything surprising in such a relationship. The artistic influence of the Nile Valley had been carried far and wide over the Eastern Mediterranean from very remote times, and we can trace the fashion of inlaying in the Aegean as early as the Mycenæan Age. Gold rings and other objects of that period inlaid with blue pastes simulating lapis lazuli have been found in the islands, and we learn from the discovery at Enkomi in Cyprus of a pectoral inlaid with pastes that articles of Egyptian manufacture were also imported. The period to which the Nimrûd ivories belong, intervening as it did between the close of the Mycenæan Age and the dawn of archaic classical art in the sixth century B.C., was marked by great commercial activity and by the diffusion throughout the Mediterranean of a hybrid art, in which Egyptian and Assyrian traditions were blended. To these influences we might fairly assign the introduction of inlaid work into the Euphrates Valley and Persia, as well as into the Italian peninsula, where it has left traces of its presence in an ivory sheath inlaid with amber from a pre-Etruscan tomb at Veii (fig. 7). From Italy it would appear to have reached Hallstatt, where it is illustrated by the great ivory sword-hilts inlaid with amber in a similar fashion (fig. 8). Although the amber doubtless came from the North, we may fairly assume, in view of the early dissemination of inlaying in the Mediterranean, that the technique came in from the South, and that the craftsmen of Central Europe in the early iron age learned to apply amber to a new style of ornament. The fashion does not appear to have persisted, and did not survive in the La



Fig. 7. Ivory sheath inlaid with amber, from Veii.
From *Archæologia*, vol. xli. pl. vi.

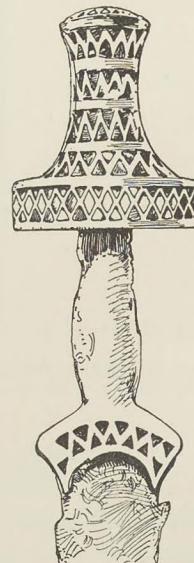


Fig. 8. Ivory sword hilt inlaid with amber, from Hallstatt. From a cast.

Tène period; it is a remarkable fact that Central Europe, which ultimately received this art from the distant shores of the Black Sea, should have failed to encourage its development when it penetrated the heart of the continent a thousand years earlier by a more direct route.

We have thus obtained the following data in support of a hypothesis connecting the inlaid jewellery of Egypt with that of Persia. The Egyptian jewels are related to gilt inlaid ivories found at Nimrûd, and probably dating from the ninth century B.C., while the Persepolitan armlet, which is decorated in the Egyptian way, is the product of an art which proceeded from that of Assyria and everywhere betrays its influence. Even were the ivories the only representatives of inlaid work known in Assyria, they might almost have suggested the local manufacture of jewels in the same style; but, as has been already suggested, actual jewels of Egyptian origin, or copies of them, must surely have been known in that country during the period of the early empire when Egyptian influence was strong, and may well have been imitated by local workmen. Once introduced into the Euphrates Valley, an art which appealed so strongly to the Eastern love of splendour, would naturally spread over a wide area, and survive to the times of the Persian Empire. The Oxus armlets would thus provide a link between Persia and the more ancient monarchies to the West.

It is in dealing with the ancient history of inlaid jewellery that the principal difficulties are encountered. For the central part of the genealogy connecting Persia with Southern Russia is less dependent on speculation, while the later descent from Southern Russia through Hungary, and the countries lying further to the West has already been so amply demonstrated by various writers that it needs no further evidence. It is now necessary to take up the thread of the inquiry at the intermediate point, and follow this branch of the jeweller's art from Persia to the banks of the Don. We shall then retrace our steps and discuss some interesting examples of plate-inlay, dating from the earliest centuries of our era, one of which, a reliquary hitherto unpublished, was found in a Buddhist stupa near Jelalabad in Afghanistan. It will then be recalled that both plate and cloisonné-inlaying are found united in objects belonging to a treasure ascribed to the fourth century A.D., and closely connected with Southern Russia. In order to perform the first of these tasks, it will now be necessary to describe the Oxus armlets in greater detail.

They are massive gold, perhaps solid at the back but tubular at the ends, the metal being everywhere sufficiently thick to admit of the cutting of the rather

deep cavities seen on the flanks, legs, heads, horns, and tails of the gryphons. The wings, which are flat on the inner sides, are covered on the outer with thin applied cells imitating feathers, while the necks are ornamented with similar cells forming an imbricated design. Down the breast and along the back runs a broad sunk band divided transversely by applied partitions forming broken lines, between which were set flat pieces of stone cut to the required shape. Only one of these now remains in position in the well-protected place between the wings. The presence of the broken line, itself a feature of early Teutonic inlaid work, should be especially remarked, for not the least remarkable point in the long history of inlaying is the persistence of ornamental details through wanderings



Fig. 9. Back view of gryphon on gold armlet from the Oxus. (Plate XVI. fig. 1.)

which occupied many hundreds of years and extended over thousands of miles. The tails of the gryphons, which are square (fig. 9) form a continuation of the band down the back, though the rectangular cells into which each are divided are not in applied work, but formed by partitions reserved in the metal, the same method being adopted on both of the horns. The cup-shaped terminations of the horns are very characteristic features of Assyrian and Persepolitan Art, and may be noticed on the reliefs from the Assyrian palaces in the British Museum, and on the sculptures of Persepolis, where also the similarity in the treatment of the whole monster, especially the modelling of the limbs, is at once apparent.^a We may draw special attention here to the manner of ornamenting the flanks by means of sunk cavities intended to receive inlaid stones, for as we shall shortly see, this method forms an important link connecting the armlet with the work of the countries whose art we have next to describe. It may be noticed that on the thighs of the gryphons these cavities are so arranged as to form a pattern composed of a circular dot between two comma-like lines. This pattern^b is commonly found upon barbaric ornaments of the seventh to eighth centuries in Southern Russia, Hungary, Lombardy, and Western Europe, where it occurs upon the flat links of the chains from which the crown of Svinthila is suspended.

^a The cup-like terminations of the horns are most noticeable in the case of the monsters without bird-like heads at the corners of the Takht of the Royal Tomb (Perrot and Chipiez, i. 219). In other examples of the mythological combat, what looks like a horn with expanded end, may be simply part of the mane which the assailant grasps to secure a firmer hold.

^b Riegl, *Die Spätromische Kunstdustrie aus den Funden in Oesterreich-Ungarn* (Vienna, 1901), 204.

It is also seen on the sixth century *transennae* of the Cathedral of Ravenna, and is supposed to have been first employed in pierced marble-work. But when we find this line-and-point motive upon objects from Persepolis dating from the fourth or fifth century B.C., and also upon gold ornaments from Siberia and South Russia, which as we shall see are technically allied to them, it is at least worth consideration whether, like the method of inlaying which it so early accompanies, it may not also have originated in the East.

The nature of the stones with which these armlets were set must now be discussed, for although the South Kensington example had lost all its inlay, while in that preserved in the British Museum only one complete slice in the back and a fragment in the right breast of one gryphon remained in their places, this was fortunately sufficient to decide the question. This armlet has been examined by Professor A. H. Church, who has submitted the fragment to a careful analysis, the result of which may be given here in his own words^a: "I have now completed, so far as the very limited supply of material has allowed, my testing of the tiny bit of inlay from the gold armlet from the Oxus treasure.

"First of all, I ought to say that the fragment is not paste or glass of any kind, and has not been fused *in situ*. Nor has it been faceted, but the angular faces have been produced by chipping not by grinding.

"I tested the fragment for phosphoric acid, and found it; but I could detect no copper, to which element turquoise owes its colour. But there are other blue mineral phosphates. So I turned my attention to the best known of these, namely odontolite, or fossil turquoise, which is really mammoth ivory coloured blue naturally by vivianite or iron phosphate. But this substance dissolves easily in acids while your fragment was unattacked (turquoise likewise dissolves). The only other blue native phosphate which one might expect to encounter is *lazulite*, a mineral which occurs in several European localities, but has also been recognised in several Indian localities, as at Culabgarh. It is a 'hydrous aluminium phosphate,' but, unlike turquoise, is practically insoluble in acids and contains no copper. I cannot affirm that your inlay is certainly lazulite, but it behaves before the blowpipe exactly like this species, contains phosphoric acid, and, like lazulite, is hardly acted on by acids. There may be, and probably are, other blue phosphatic minerals still to be recognised, but I do not think you will be far wrong if you describe the inlay as 'probably lazulite, a blue aluminium phosphate resembling turquoise in hardness but of rather greater density.' "

^a Letter to Mr. C. H. Read.

This result is interesting, for it suggests that the goldsmiths may have chosen this stone in preference to turquoise, because it more closely resembled the lapis lazuli of the earliest models known to them. In later times the turquoise has always been the favourite stone in Persia, and the mines of Nishapur in Khorassan had a very wide reputation in West Central Asia. Lazulite is of a fairly brilliant blue, whereas turquoise has a decided greenish tint, and this, under the circumstances, may have been sufficient to explain the preference shown for the former. The point may be of trifling importance, but it is worth mentioning, for such evidence as it affords tends to support rather than to invalidate the Egyptian origin of inlaid jewellery. The Oxus treasure contains another penannular armlet (Plate XVI. fig. 3), of smaller size, which would seem to be later in date. Its ends terminate in rams' heads, the necks being inlaid with turquoises in applied cells divided by partitions forming broken lines. In style and execution it is closely connected with the objects from the tumuli of Southern Siberia to which we must now pass.

The gold ornaments found in the tombs in the steppes of Western Siberia^a form a class distinguished by great individuality of treatment. They have been discovered at various times since the days of Peter the Great probably for the most part about the upper waters of the Obi, and the majority of those now preserved in the Imperial Museum of the Hermitage have been in St. Petersburg for a great number of years. The early Russian settlers in Siberia found the exploration of tumuli a profitable occupation which they pursued with so much energy during the early part of the eighteenth century that few interments were left undisturbed. So systematic was the spoliation that a modern excavator is held to be lucky if in several hundred tumuli he finds a single undisturbed interment. The treasures yielded by the burial mounds thus came in such numbers into the local markets that they are said to have depreciated the local value of gold.^b But though the abuse was checked by Imperial edicts,^c no

^a On these ornaments, see de Linas, *Origines, &c.* ii.; Kondakoff Tolstoi and Reinach, *Antiquités de la Russie Méridionale*, 364 ff.; Odobesco, *Le Trésor de Pétrossa*, pt. i. 230.

^b J. R. Aspelin, *Compte Rendu of the International Congress of Anthropology and Prehistoric Archaeology, Stockholm*, 1876, 555-6; W. Radloff, *Aus Sibirien* (Leipzig, 1884), ii. 76; de Linas, *Origines &c.* ii. 193 ff.; Kondakoff, Tolstoi and Reinach, as above, 368 ff.

^c W. Radloff, in *Materials for Russian Archaeology*, Part 15 (1893), Appendix, 53, published by the Imperial Archaeological Commission, St. Petersburg (Russian). In this appendix four of the plates from Witsen's *Noorden Ost Tartarye*, representing Siberian antiquities are reproduced.

records of the circumstances attending individual discoveries have hitherto been available, and little is therefore known of the history of particular objects or of the other objects in baser metal with which they were associated.^a It is, however, practically certain that these gold ornaments belong to mounds of the iron age, for they frequently represent animals of monstrous and fantastic form which are entirely absent among the remains from bronze-age tombs in the same area.^b As to the precise time when the use of iron became common, there is no satisfactory evidence; but a comparison of objects of the iron age from the Altai Steppes with others from the Scythian tombs north of the Black Sea seems to show that the new metal was known as early in Siberia as in Southern Russia,^c while the earliest Chinese records mention no tribes using bronze weapons. To discuss the identity of the people who made these inlaid jewels would compel us to enter into vexed questions on which the opinions of ethnologists are not unanimous. They were probably for the most part nomadic horsemen, and have been conjecturally identified with the Massagetae, whose partiality to gold ornaments was remarked by Herodotus.^d

These Siberian antiquities are largely composed of bracelets, diadems and ornamental plaques of gold bearing representations both of the fauna of Central and Western Asia and also of monstrous animal forms. The plaques were most likely applied both to the costume of men and to the trappings of their horses, the fondness of the inhabitants of the Steppes for this kind of ornament being well known from very ancient times. The greater part of these treasures probably belonged to chiefs and important persons who were able to obtain abundant supplies of the precious metals. The Ural and Altai Mountains were not the only sources from which gold was derived;^e Upper Tibet has been described by medieval and modern

^a M. de Kieseritzky, Keeper of the Department of Greek and Scythian Antiquities at the Hermitage, St. Petersburg, will shortly issue a profusely illustrated catalogue of the Siberian ornaments, in which much fresh information is promised.

^b W. Radloff, *Aus Sibirien*, ii. 84 and 127.

^c J. R. Aspelin, *Antiquités du Nord Finno-Ougrien* (translation G. Biaudet, Helsingfors, 1877) 46-7.

^d On the question of the early inhabitants of the Siberian Steppes, see Radloff, *Aus Sibirien*, ii. 129 ff.; Kondakoff, Tolstoi and Reinach, *Antiquités de la Russie Méridionale*, Part iii. 323 ff.; Clements, *Antiquities of the Minusinsk Museum*, 65 ff., Tomsk, 1886 (Russian).

^e A. Lappo-Danilevsky in *Materials for Russian Archaeology*, Part 13 (1894) p. 14 (Russian); N. Popoff, *V. Tatischeff and his times* (Moscow, 1861), 563-4; Herodotus, Book I. 215, iii. 98, 102; Strabo xi. 8, 6.

travellers as highly auriferous region; and a Russian traveller of the eighteenth century records that in his day Bokhara and Turkestan were so rich in gold and silver that the inhabitants only used what they found on or near the surface of the ground. The most characteristic feature of these Siberian ornaments lies, as has been already remarked, in the sinking in various parts of the design, for instance on the flanks of the animals of small triangular, circular, or pear-shaped cavities in which turquoises and garnets are embedded. We have seen that this brings them into connection with the Persepolitan armlets in which we noticed an identical style of decoration, and the procedure may well have been introduced from Persia, the influence of which country spread far beyond its own borders

in very early times. As an illustration of this we may draw attention to a barbaric gold ornament (fig. 10) representing the lion-headed gryphon of Persian art, which formed part of the Oxus treasure. This monster was also adopted by the Greeks, and a good example of it may be seen on the famous fourth-century vase of Xenophantos, found near Kertch in 1836. On this vase is painted a scene representing barbarians hunting gryphons both of the lion and eagle-headed varieties, and the appended names of the hunters are principally Persian.^a If the above view of the origin of embedding is correct, the process may represent a crude attempt to enhance a sculptural effect, and to accentuate by a contrast of colour the characteristic conventional treatment of



Fig. 10. Gold plaque from the Oxus Treasure, representing a lion-headed gryphon.

animal joints and muscles seen on Persepolitan and Assyrian sculptures. In the hands of barbaric goldsmiths it would rapidly overpass these anatomical limits in proportion as love of mere splendour predominated over a higher artistic sense, and would finally run wild over the surface of the ornament, as is the case in some of the Siberian plaques which appear to be sprinkled with turquoises in a fashion which confuses rather than assists the eye. It may be, however, as De Linas among others supposed, that this method of embedding originated in Asia, and that its presence on the Oxus armlets is due to a reflex influence from Scythian art. The new catalogue of the Hermitage collections will, it may be hoped, place us in possession of important evidence on this point. Meanwhile it may be

^a *Compte Rendu de la Commission Impériale archéologique*, 1866, 139 ff. *Atlas*, pl. iv.

remarked that even if this peculiar form of embedding should prove to be of Asiatic invention, it would not follow that cloisonné inlaying had the same origin.

It now becomes necessary to mention one or two of these Siberian objects, a comparison of which may assist in determining the date of the whole class.

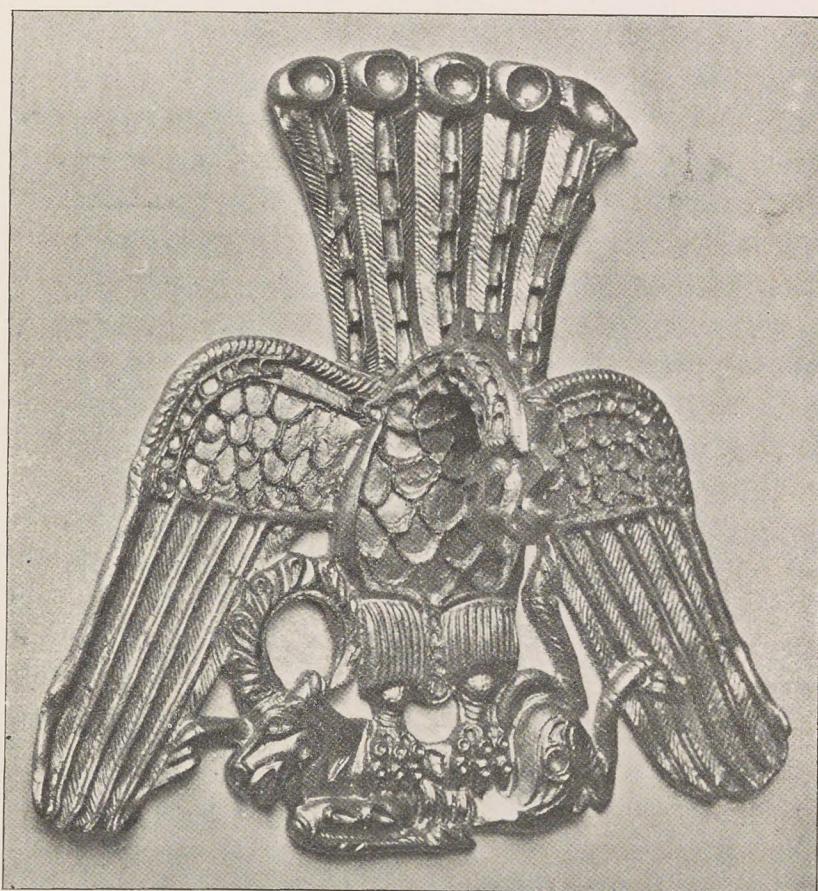


Fig. 11. Gold plaque from Siberia, in the Museum of the Hermitage, St. Petersburg.
From an electrotype in the Victoria and Albert Museum, South Kensington.

There is in the Hermitage at St. Petersburg a gold plaque (fig. 11),^a in the form of a great bird of prey holding a wild goat in its claws. The neck, breast, and upper part of the wings of this bird are covered with cells, in which there

^a De Linas, *Origines*, ii. 196; Kondakoff, Tolstoi and Reinach, as above, 379. This bird was reproduced in *Archaeologia* as early as 1773, see vol. ii. pl. xv., but the figure is very inaccurate.

are said to be traces of red stones or pastes; while in the body and in the horns of the goat are sunk cavities of the usual style which were apparently once filled with turquoises, such a combination of red and blue stones being not uncommon in these Siberian plaques. The goat is executed in a style resembling that of other animals represented in a well-known treasure^a from South Russia, and to this fact we owe one of the few clues which we have to the age of the Siberian and South Russian ornaments. This treasure was discovered in 1864 at Novotcherkask on the Don, and contained, amongst other objects, two gold armlets, three small boxes and a collar embedded with turquoises in the familiar Siberian style, a gold statuette of Eros playing on a pipe, and a crown or tiara of beaten gold set with cabochon stones, the upper rim of which was surmounted by a row of deer (fig. 12),



Fig. 12. Deer from the top of the gold crown from Novotcherkask, in the Museum of the Hermitage, St. Petersburg. After Kondakoff.

and branches of smilax, while the front was set with a bust of an empress carved in pale amethyst or calcedony. The bust, which must have originally been made for another object, is usually held to be late Roman work of about the third century A.D., and thus gives an approximate date for the treasure, a date which would be strikingly confirmed if the coins of Augustus, Nero, and Galba obtained in Tobolsk in the eighteenth century, were really taken from Siberian tombs.^b The little birds upon the upper rim are ornamented in the same way as the large bird of prey which has just been described, and from the lower edge hang a number of pendants of earlier date in the style of those found in the later Greek ornaments from Kertch, showing that the crown was probably made in

Southern Russia. From the large bird of prey and the Novotcherkask treasure we therefore learn that this curious Siberian style of jewellery, in which embedding and cloisonné inlaying are combined, was practised to the west of the Ural Mountains in the first centuries of our era, and in Siberia itself almost certainly earlier. For among the Siberian objects are examples with representations of birds and monsters, in which the style of the cloisons is so closely allied to that seen on the Oxus armlet,

^a De Linas, *Origines*, ii. 131 ff. and accompanying plates; *Compte Rendu de la Commission Impériale Archéologique* (St. Petersburg, 1864), 20; de Lasteyrie, *Hist. de l'orfèvrerie*, 67-8; Kondakoff, Tolstoi and Reinach, as above, 488 f.

^b Figured in Witsen, *Noord en Ost Tartarye*, 4th plate of antiquities; reproduced by W. Radloff; in *Materials for Russian Archaeology*, Part 15 (1894), 134. See also Kondakoff, Tolstoi and Reinach, as above, 367.

that they cannot be far removed in point of date. Particularly remarkable in this respect are a figure of a bird holding a swan in its claws,^a and a magnificent



Fig. 13. Top of a hookah inlaid with turquoises from Yarkand. In the India Museum, South Kensington.

gold penannular collar, the ends of which terminate in winged monsters.^b It is clear that in Persia, and in the countries beyond it to the north-east, the art of

^a Kondakoff, Tolstoi and Reinach, as above, 381, fig. 334.

^b This collar is, I believe, still unpublished.

inlaying was practised in great perfection at any rate as early as the fourth century B.C., and if Persia was the earlier centre of manufacture, the fine inlaid work of modern Central Asia, of which our museums contain a few examples (fig. 13), but which is splendidly represented in the collection of Oriental arms in the Hermitage at St. Petersburg, is of Persian descent. We may safely follow de Linas in assuming that Bactria played a prominent part in the manufacture of jewellery; and this country being inhabited by a cultivated people, and at the same time a Satrapy of the Persian Empire was particularly qualified to transmit Persian influence to the barbaric tribes north of the Oxus. In support of the Persian claim, we may again refer to the fact that the winged monsters of Siberian art are almost certainly immigrants from Hither Asia, and it has been conjectured that cultural influences from this region penetrated as far as the Yenisei even before iron was known.^a Now if Persia transmitted these monsters to Central Asia several centuries before Christ, she may well have also introduced the cloisonné work with which we suppose her to have been long acquainted. I am aware that the style of the Siberian plaques, notably in the grouping of the animals, the confusion of plastic and pictorial methods, and the general ignorance of perspective, has been compared to that of early Chinese art,^b and that, other things being equal, the identical arguments just adduced in favour of Persia might be used in support of a Chinese claim. But whereas we have in the Oxus armlets Persian inlaid jewels which may go back as far as the fifth century B.C., from China we have nothing of equal age. Those who know China best are not disposed to lay much stress upon her possible artistic influence on countries to the West very long before the Christian era; and even in far later times the initiative in important artistic departures in the Middle Kingdom is held to have come from outside. For instance, cloisonné enamelling was introduced from western, presumably Byzantine, sources towards the close of the Yuen Dynasty, for the name of Chih-chêng (1341-1367), is found underneath the foot of cloisonné pieces which may be accepted as contemporary with that emperor. The art was officially adopted in the reign of Ching-tai (1450-1456), who belongs to the succeeding Ming Dynasty.^c

The enquiry has thus led us through lands civilized and barbarous to our anticipated goal in the country known to the Greeks as Scythia, whose coasts had

^a Aspelin, *Antiquités du Nord Finno-Ougrien*, translated by G. Biaudet, 47.

^b Kondakoff, Tolstoi and Reinach, as above, 408.

^c Dr. S. W. Bushell, *Oriental Ceramic Art*, Section 8, 286

been occupied for many centuries by colonists of Hellenic descent. The question therefore naturally arises, what was the relation, if any, of inlaying to the Greek goldsmith's art? We have already had occasion to remark that the inlaid work of ancient Egypt influenced Mycenaean jewellery, and that in the centuries which followed the Mycenaean age, ivories inlaid with amber in imitation of the Egyptian technique were produced in Northern Italy and Upper Austria. But Hallstatt seems to be the extreme limit which this fashion attained in Central Europe before the Christian Era; it does not appear to have found favour with the craftsmen of the La Tène and late Celtic periods, or to have made any further progress towards the north and west; while the amber-inlaid ivories themselves are but rude and debased examples of the sumptuous art from which they claim descent. Nor did the inlayer's skill appeal to the Greeks of classical times as it had appealed to the men of the Mycenaean age, and we may take it that Hellenic art of the best period had little or nothing to do with inlaid jewellery as we understand it. To the fine Greek sense of beauty it would perhaps have appeared meretricious, and traces of it among Hellenic jewels are extremely rare. But it does appear to have obtained entrance into one district inhabited by Greeks, and that the very region to the north of the Black Sea with which we have already been concerned. The bezel of a gold ring, and a disc attached to a gold pin discovered in Greek tombs of the late third century B.C., in the Taman Peninsula^a are inlaid with glass pastes divided by fine gold cloisons forming rosettes, while another ring has an inscription executed in a similar style but filled with enamel. We know further that inlaying on a larger scale was commonly practised at Kertch, the decorated wooden sarcophagi found in the tombs being inlaid with figures in ivory. But although inlaid jewellery was thus known to Greek goldsmiths, the examples made by them are so few in number that the art can hardly have been widely disseminated. It is true that the treasures of Petrossa and Nagy Szent Miklos,^b which are assigned to the culture-area of the Greek settlements, were ornamented with inlaid stones, but they are both several centuries later than the ring and pin from the Taman Peninsula and reveal the predominance of Persian and barbaric influences. There is thus a long interval

^a *Compte Rendu*, 1880, 52-3, and *Atlas*, pl. i. figs. 13 and 17. For the enamelled ring, see *ibid*, 77, and *Atlas*, pl. iii., fig. 7.

^b For the formerly inlaid objects in the Nagy Szent-Miklos treasure, see J. Hampel, *Der Goldfund von Nagy-Szent-Miklos* (Buda-Pesth, 1885), 104; the treasure is also figured in the same author's work in Hungarian, *A Regibb Kozepkor, &c.* (Buda-Pesth, 1894). For the treasure of Petrossa, see below.

unillustrated by archæological discovery ; but it may well be that the fashion of inlaying, once introduced into the Greek sphere of influence on the Euxine, lingered on through the period of artistic decline, becoming more and more barbaric, but perhaps receiving an occasional stimulus through the importation of fresh examples from Persia or Scythia. The late date of the Taman grave and the absence of similar inlaid work in the earlier tombs which have been excavated, would seem to show that the settlers did not bring the art with them, but learned it after their arrival in their new homes ; and the similar absence of a continuous series of inland ornaments among the Græco-Scythian jewellery of the same early period would tend to prove that the Greeks neither taught the fashion of inlaying to their northern neighbours nor learned it from them. We might be tempted indeed to trace some such early Greek influence on the inlaid work of Scythia if the treasure of Novotcherkask (*see above*) is, as some have supposed, earlier than the Christian era. But most archæologists assign to this treasure a considerably later date ; and even should it be more ancient than it is usually considered, it would not prove that the Greeks introduced inlaying into the Scythian area. For as we have seen, Siberian ornaments are in existence closely allied in style to the Oxus armlets and independent of Greek influence. There is, in fact, good reason to conjecture that inlaid jewellery first gained a permanent foothold in European Scythia, not from the South, but from the East, and that it travelled from the Oxus to the banks of the Don, across the Obi and the Ural Mountains ; the evidence for the proof or disproof of this hypothesis lies in St. Petersburg, and it is from Russian archæologists that we may expect a solution of the problem. The appearance of inlaying among the later Greek jewellery of the Taman Peninsula, may, with greater probability be attributed to the more direct influence of Persia, coming from the shores of the Black or Caspian Seas, or across the Caucasus. Numerous objects of Persian origin, or in imitation of the Persian style, are found in the Greek tombs of Kertch, notably cylinders^a engraved in intaglio with Greek as well as Persian subjects ; and it is quite possible that the Greeks imitated Oriental inlaid jewels just as they reproduced the Asiatic cylinder. This direct Persian influence was continuous, and is very marked in the case of the Petrossa treasure.

^a *Antiquités du Bosphore Cimmérien*, pl. xvi. figs. 2, 3, 5, 6 ; *Compte Rendu*, 1881, pp. 81-88, and *Atlas*, pl. v. figs. 6-7, 8-9 ; 1882-8, *Atlas*, pl. v. fig. 3 ; Kondakoff, Tolstoi and Reinach, as above, p. 67. Objects showing a direct Egyptian influence have also been found in the tombs of Kertch (*Compte Rendu*, 1880, 74-75), and it is possible that the Greek inlaid work, especially the wooden sarcophagi, may have owed something to this source.

We must now retrace our steps and consider a group of ornaments inlaid in another style, which we have denominated plate-inlaying. The apparent rarity of this style among Siberian finds would seem to show that it never made headway north of Persia and Afghanistan, and that it became popular in Iran later than the cloisonné variety. Future discoveries may prove both these suppositions erroneous; they are admittedly based upon negative arguments, and must be regarded in the light of provisional hypotheses.

The first of these examples of plate inlaying is a reliquary (Plate XVI. fig. 2), discovered in 1879 by Mr. William Simpson in the Ahin Posh Tope (Stûpa) near Jelalabad.^a This stûpa, which was about 80 feet in diameter, was composed of large water-worn boulders embedded in clay, within an outer shell of large stones and slates. The reliquary lay in a small cell or cist about 15 inches square, built upon the level of the ground and composed of slates laid in horizontal courses. It was surrounded by two or three handfuls of ashes and 18 gold coins, and contained two more gold coins with several fragments of a brown substance, which has been examined by Professor Church, and thus described by him :

"On heating the small fragment of brown substance from the Indian reliquary it gave off an aromatic or resinous odour and became nearly black but did not diminish in bulk. The residue on further heating became nearly white. On pouring on to this residue a few drops of nitric acid it gave off a little carbonic acid gas, and nearly completely dissolved when subsequently warmed. The solution contained lime and phosphoric acid. The conclusion that I draw from these tests is that the substance in question may be a fragment of bone which has been saturated with some resinous substance. I cannot recognise anything akin to bony structure under the microscope, however, and so my deduction from the tests applied still needs confirmation. It might turn out that the osseous constituents were merely bits of the same cement used to fix the stones in their cavities on the reliquary. In many places in India, lime being rare, shells, both fresh-water and marine, are burnt to yield it for many purposes. There is some phosphate, though very little, in such lime. Its powder makes with some resins a firmer and stronger cement than the resins alone. I merely mention this as a point not to be ignored in any conclusion based on the detection of phosphoric acid in the particle you gave me. My view is that bone ash was 'indicated' but not proved." It is therefore possible, but by no means certain, that these fragments are the relics over which the tope was erected.

^a *Proceedings of the Asiatic Society of Bengal*, 1879, 77-79.

The casket, which is 3 $\frac{7}{8}$ inches long, is in the form of an octagonal prism, having at each end a pearl-bordered border, and a large loop for the cord by which it was suspended round the neck. It is opened by drawing out or pushing in one end, the moveable portion sliding into the body of the box and not covering it like a cap; the same method of closing recurs in another cylindrical box of plain gold found with Indo-Scythian coins at Manikyala in the Punjab, and now also in the British Museum. The six surfaces of the prism are pierced with holes, alternately oval and leaf-shaped, originally inlaid with almandine garnets and leaf-shaped pieces of pale grey-green stone, described by Professor Church as *Bowenite*, a variety of serpentine chiefly worked in the Safid Koh Range to the south of Jelalabad, and still used in the Punjab for making knife and dagger handles, and in mosaic work. At each end is a design formed of a central garnet within a circle of six hearts, which were almost certainly once filled with the same green stones. Had the heart-shaped perforations been eight in number it might safely have been assumed that this design was intended to represent the Buddhist lotus (*padma*), for this flower is commonly found on relic boxes or upon the tiles placed over the cists in which relics were deposited. The lotus flowers impressed upon tiles from Sagarwa, in the Terai of Nepal,^a are very conventionally treated, a deep depression, usually circular, marking the centre of each leaf and giving the whole an appearance not unlike the present design. The garnets on the reliquary are still all in their places; but of the leaf-shaped pieces of serpentine only one remains, the empty spaces from which the others have fallen revealing the manner in which the box was made. It was double, a space of about $\frac{1}{8}$ th inch separating the inner cylinder of plain gold from the perforated and inlaid outer case. The exterior of the inner cylinder thus formed a support for the matrix of resinous gum, and in this the stones which filled the apertures were fixed; the reliquary is therefore an example of the plate-inlaying which has been described above. The safety of the garnets seems to be explained by their being cut of a larger size than the holes in which they were set and by the gold having been rubbed over their edges, while the leaf-shaped stones only just fitted their apertures.

The coins discovered with the reliquary, and now in the British Museum, were described by Dr. Hoernle while they were still in India.^b Seventeen of them belong to three kings of the Indo-Scythian dynasty, viz. ten to Hima

^a Archaeological Survey of India, *Report on a tour of exploration of the antiquities of the Tarai, Nepal, the region of Kapilavastu, in 1899*, by Babu Purna Chandra Mukherji, with pref. by Mr. V. Smith.

^b *Proceedings Asiatic Society of Bengal*, 1879, 122 ff.

Kadphises (c. 30-78 A.D.), six to Kaniska (Kanerki) (c. 85-106 A.D.), and one to Huviṣka (Hverki) (c. 111-142 A.D.). Three are Roman, one of Domitian (81-96 A.D.), one of Trajan (98-117 A.D.), and one of Hadrian (117-138), the last-mentioned coin having on the obverse the bust of Julia Sabina, who died 137 A.D. Of the two contained in the reliquary one was of Hima Kadphises (Hoernle, p. 123, No. 9, and pl. II. and III.) and one of Kaniṣka (p. 131, No. 13). All the coins, with the exception of one of Kadphises, are in very good preservation and have suffered little from wear.

The presence of these coins enables us to approximately determine the age of the casket. The gold of which they are made is very soft, and would soon show signs of attrition if they were in constant circulation. The absence of any coins of Vāsudeva, the successor of Huviṣka, or of any of the kings who followed him, suggests that the treasure was deposited during Huviṣka's reign. For the coins of Vāsudeva are more numerous and better known than those of any of the Indo-Scythian kings, and have been found in other topes. His successor also minted without intermission, so that unless we suppose that it was customary to deposit in topes only coins which were no longer current, an usage for which there would appear to be no evidence, we may place the date of the tope at about the middle of the second century. In view of the regular communication existing at that time between Parthia and the West, the presence of Roman coins would offer no difficulty, and there is no reason why a coin of Hadrian should not have been in Afghanistan before 150 A.D. The form of the reliquary differs from that of the caskets commonly found in Buddhist monuments. The loops at the ends show that it was intended to be worn round the neck, and it may therefore be assumed that it was not made expressly for interment, and may be a few years older than the tope. We may perhaps conjecture that the reliquary was the personal property of some prince, and that it was worn by him as a receptacle for some venerated object. It may have been then placed by him during his lifetime, or by others after his death, in the stūpa in which it has now been discovered after the lapse of seventeen hundred years. We seem to trace similar objects suspended from cords across the shoulders of Kings and Bodhisattvas (fig. 14) on the contemporary sculptures from the same district, formerly called Graeco-Buddhist, but now named, after the district in which they are found, Gandhāra sculptures.



Fig. 14. Sculpture from Gandhāra in the British Museum.

Analogous objects, or else beads of exceptional size, are also to be seen on the still earlier sculptures from the railings of the Great Tope at Bharhût, which probably dates from the third century B.C. (fig. 15). In some cases, as the illustration will show, a prism with the pearl-bordered borders at the ends is very clearly represented, though the large loops for attachment, which form a feature of the reliquary, are not in evidence. We are, therefore, perhaps justified in assuming that the form was familiar in India long before the Ahin Posh Tope was erected, though it may well have been originally introduced from the Nearer East. There are indeed general considerations which might almost persuade us that both the form of the reliquary and the art in which it is ornamented are of Indian origin. The inlaying of rubies and garnets in gold rings and other jewels has always been practised by the goldsmiths of Northern India, whence it probably passed to Burmah and Siam, countries where it is equally popular. And when we remember the traditional splendour of the Indian princes in the most remote times, their great wealth, and the unlimited supply of rubies, garnets, and other precious

stones at their command, we shall scarcely be inclined to deny that inlaid jewels might well have been manufactured further east than Afghanistan at a much earlier date than that at which the reliquary was made. We have also to remember that it was from India, from Asoka's kingdom of Maghada, that the Buddhist missionaries carried their faith, and with it doubtless many of the arts of the advanced Gangetic civilisation, into the district of Gandhâra two and a half centuries before Christ. But such considerations are outweighed not only by what we already know of the early connection of Persia with inlaid jewellery, but also by the teaching of history

as to the influence of that country upon India. It must not be forgotten that even before the time of Asoka, Persia had powerfully affected the art of the peninsula, and that any wave of influence which accompanied Buddhism towards the West may have been merely a reflux to an original source. Gandhâra especially was from early days under direct western, and especially Persian, influence. It was incorporated in the great empire of Achaemenides, and the Gandharioi sent a contingent to the army of Xerxes. It was on the highway of commerce between Hither Asia and India, and the invading host of Alexander passed through its territories. On the death of the Conqueror, it fell to the lot of the Seleucidae, who were in alliance with the Indian monarchy of Magadha. Early in the second century B.C., it was seized by the Greek princes of Bactria,

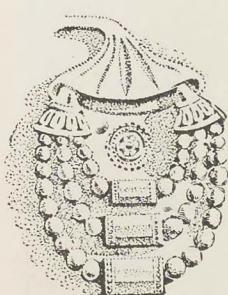


Fig. 15. Detail from the
Sculptures of Bharût.
After Cunningham.

who had revolted from the Seleucidae in 248 B.C., and who were pushed to the south by the impact of the Scythian tribes. The Greeks maintained their power until 20 B.C., when the Kuṣana princes, so called from one branch of the great Scythian people, the *Yueh-chi* or *Yueh-ti*, established their power in the country until in their turn they were driven south by the Hiong-Nu. But through the whole of this period, this part of Asia never ceased to be permeated by the influence of the western civilisations. The Gandhāra sculptures show many traces of Hellenistic and Roman influence, and even the Christianity of the early Roman Empire is held to have left its mark upon them. The testimony of art and archaeology in fact reveal a continuous trend of influence from west to east, and motives derived from Persian architecture may be traced not only in Gandhāra, but much further east in the Buddhist ruins of Sanchi in Bhopal, and of Amarāvatī on the Kistna. But in addition to the evidence of art or history, the coinage of the district furnishes abundant proof of the close connection which always existed between Gandhāra and the West.^a The coins of the Achaemenid kings circulated in the Punjab; while before 322 B.C. Athenian money had arrived in the course of commerce and was imitated in the local mints. Coins further show that Parthian influence on the various Scythian dynasties was continuous, while an Indo-Parthian dynasty reigned in Kandahar and Seistan, the best known member of which, Gondophares (the first year of whose reign was 21 A.D.), has left an inscription at Takht-i-Bahi. Coins of the Roman Empire found their way in great numbers, not only into the north, but also into the south of India; and finally there was a close intercourse between later Kuṣana kings and Sassanian Persia. It will be seen that of all the influences exerted on India, of which we have any record, that of Persia was the most immediate and unbroken. After the extension of the power of the Arsakides (Parthians) in the first century B.C., this influence was especially strong. It seems probable that the Parthians, and not the early Seleucid monarchs, were the principal carriers of classical influences into Gandhāra, for it is in their time that the sculptures reach their highest perfection,^b and that Iranian names and divinities are seen upon the coins. But there are other proofs of a more concrete nature, which tend to show that inlaying came into Afghanistan from Iran. In 1870 there was discovered at Wolfsheim, near Mayence, a gold object, apparently part of the decoration of a girdle (fig 16).

^a E. J. Rapson, *Indian Coins*, vol. ii. of the *Grundriss der Indo-Arischen Philologie und Altertumskunde (Encyclopædia of Indo-Aryan Research)*, 3 and 4.

^b J. Burgess, *The Gandhāra Sculptures* (London, 1899), 6, 7.

ornamented by plate-inlaying with almandine garnets in a style almost precisely similar to that of the reliquary from Ahin Posh. Punched on the plain gold back was the name *Artaschshater* (Ardeshir) in Pehlevi characters of an early form, suggesting that the person referred to can be no other than the first Sassanian King of that name (d. A.D. 238). The importance of this buckle was at once recognised, for its form, unlike that of Teutonic types, confirmed its Persian origin. Its occurrence so very far away from the country of its birth is ingeniously explained by Herr von Cohausen,^a who suggested that it formed part of the treasure of Alexander Severus when he was assassinated near

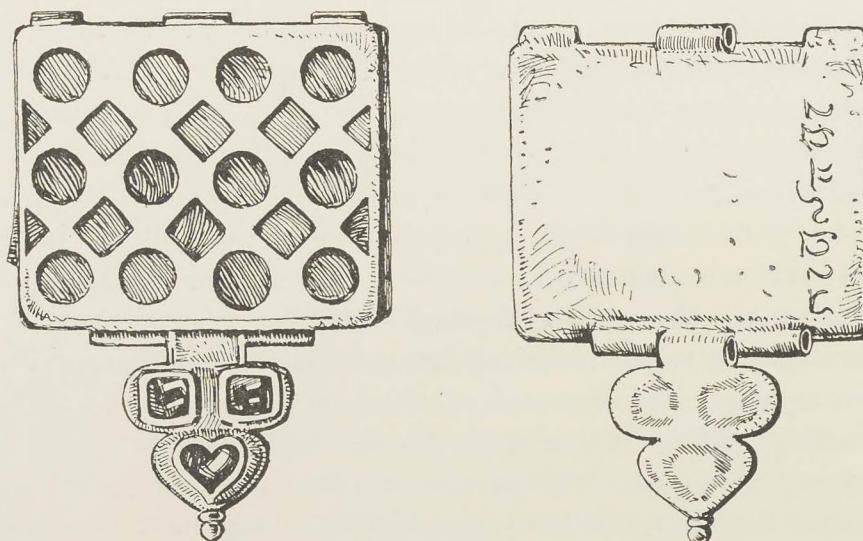


Fig. 16. Gold girdle-ornament of Sassanian work inlaid with garnets.
After Von Cohausen.

Mayence in 235 A.D. It will be remembered that Severus conducted a victorious campaign against Ardesir, and it is not unreasonable to suppose that this jewel was amongst the spoils taken from the vanquished king. As long as no contemporary Oriental monument was known to exist, it was still possible to dispute the authenticity of the girdle-plate by supposing the inscription to have been placed upon an article of Western manufacture by a Persian mercenary in the Roman service.^b But it is here that the importance of the Ahin Posh reliquary

^a *Annalen des Vereins für Nassauische Alterthumskunde und Geschichtsforschung* (Wiesbaden, 1873), 9 and plate i, fig. 3. The Wolfsheim ornament is also figured and discussed by de Linas, *Origines, &c.* i. 5 and pl. i.; and Molinier, *Histoire des arts, &c. L'Orfèvrerie*, iv. 15.

^b Molinier, as above footnote.

becomes manifest. In it we have an example of the same kind of work, which, from the conditions of its discovery, cannot possibly have been influenced by Teutonic art. Its existence not only renders the Oriental origin of the Wolfsheim jewel unassailable, but also considerably strengthens the view of de Linas with regard to certain parts of the Petrossa treasure, to which we shall shortly have occasion to refer. It further makes it extremely probable that jewellery of a similar kind was made in Persia before the accession of the Sassanian dynasty; for if the date assigned to the Ahin Posh Tope is correct, and inlaying was really introduced into Gandhâra from the Persian side, then it is clear that Iranian goldsmiths must have been producing work of this description in Parthian times. Plate-inlaying, like cloisonné-inlaying, may have existed in ancient Egypt^a and if so it would have also crossed the Euphrates, and have been practised at the Achaemenid Empire. Evidence in proof of this may exist which is unfortunately unknown to me; but from the facts to which I am limited by my restricted knowledge I do not feel able to venture more than a guess. There are several possible conclusions as to the origin of this style of work: that it started in Egypt and was thence transmitted to Mesopotamia and Persia; that it originated in Persia; or in India; or that it was introduced into India and Persia from Central Asia. We require more evidence than that at present available before the question can be finally decided.

A link must now be sought to bring these Persian jewels into connection with the examples of plate-inlaying made in barbaric Europe, such, for example, as the votive crown of the Visigothic King of Svinthila (fig. 2), to which reference has already been made. This link is provided by the famous treasure of Petrossa,^b found in 1837 near the Wallachian village of that name, and now preserved, though in a sadly mutilated condition, in the Museum at Bucharest. Several of the objects composing this treasure are inlaid with garnets and other stones, and in some cases both plate and cell-inlaying are simultaneously employed. The plate-inlaid objects are three fibulæ in the shape of birds, and a larger ornament, also in the form of a bird, intended to be worn either as a pectoral or as a

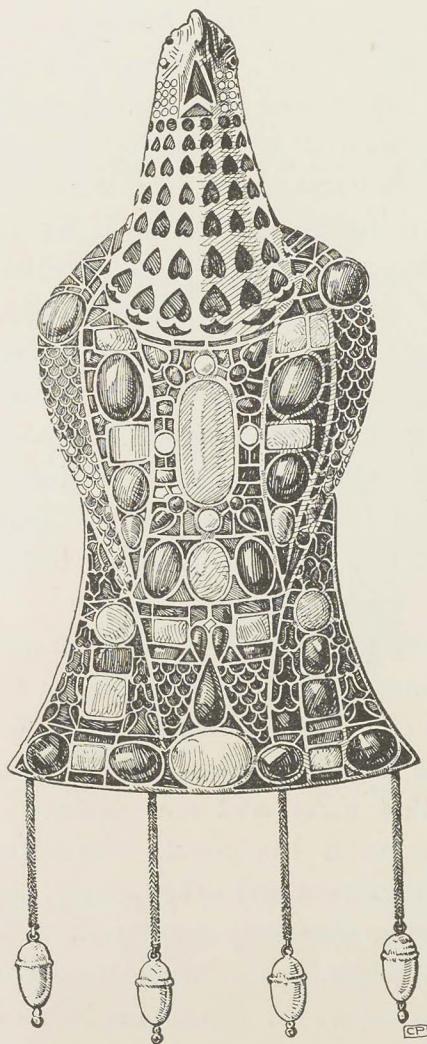
^a See above.

^b The bibliography of this treasure is now very large. The best account is to be found in the large work by M. A. Odobesco entitled *Le Trésor de Petrossa*, in which the earlier books and treatises are mentioned. There is a monograph upon it by F. Bock in the *Mittheilungen des K.K. Central Commission zur Erforschung und Erhaltung der Baudenkmale, &c.* (Vienna, 1868); it was described for the Arundel Society by R. H. Soden-Smith in 1869, and is discussed by Labarte in his *Histoire des Arts Industriels*, by de Linas, *Origines de l'Orfèvrerie Cloisonnée* and *Orfèvrerie Mérovingienne*, and Venturi, *Storia dell' Arte Italiana*, ii. 5ff.

decoration for the head (fig. 17). The heads and breasts of the birds are made of thin plates of gold, pierced to receive drop-shaped garnets, the lower parts being ornamented with the same stones set in cells. The treasure contains three other inlaid objects of the highest interest, viz. a gorget (fig. 18), and

two polygonal vessels with handles (fig. 2). The first is a very elaborate example of plate-inlaying, for the leaf and heart-shaped apertures intended to contain the stones are very numerous and close together, so that the whole in a perfect state would almost produce the effect of cloisonné work. The polygonal vessels were once the finest examples of open-work inlaying in existence, but the thief who stole and mutilated the treasure robbed them of most of the crystals and coloured gems with which they were set. Their original appearance was, however, placed on record soon after their discovery, and they have been reproduced in colours, as they once appeared, by M. Odobesco, the principal historian of the treasure. We need not enter here into the discussion to which the peculiar features of the treasure of Petrossa have given rise. All authorities agree that the objects of which it is composed must have been imported into Roumania (part of the ancient Dacia) from Southern Russia, because some of them are evidently the products of Mix-hellenic art, and could only have been made in a district like that in the neighbourhood of the Pontic Settlements of the Euxine littoral, where the tradition of the older Greek goldsmiths' art still lingered on after the beginning of the Christian era. But it has been debated whether the treasure is homogeneous, or whether it is composed of elements drawn from different countries. M. Odobesco is in favour of unity, and has ably set forth the arguments on which his opinion is based.^a He does not deny that Oriental influence is present, but he

Fig. 17. Inlaid gold ornament from Petrossa.
After Odobesco.



^a *Le Trésor de Pétrossa*, part iii. 6.

thinks that the treasure was made in Europe, possibly by Greek goldsmiths, to the order of the Goths.

De Linas and other more recent writers are inclined to lay rather greater stress on the manifest Persian analogies presented by the treasure. They compare the inlaid fibulæ of Petrossa with the Wolfsheim girdle-plate, and point out that the open-work vessels of Petrossa are identical in style with the dish of Chosroes I. (531-579) in the *Cabinet des Médailles* at Paris, which has in the centre a crystal cameo in which the Sassanian King is represented, and of which the Persian origin is beyond dispute. For our present purpose the actual spot in which the treasure of Petrossa was manufactured is only of secondary interest. The important point is that the examples of inlaid jewellery which it contains are products of an art which reached South-eastern Europe directly or indirectly from Persia, for, as we have seen, plate-inlaying was practised in that country at an earlier date than that assigned by any authorities to the objects found at Petrossa. This treasure, though parts of it may be earlier, can hardly be later than the third quarter of the fourth century. At that time the Huns drove the Goths out of Russia, and it is held that the treasure was carried away by the fugitives, perhaps by their King Athanaric, who ultimately died at Constantinople. However this may be, the bird-fibulæ supply the requisite link between the Ahin Posh reliquary and the Wolfsheim girdle-plate on the one hand, and the crown of Svinthila on the other. For no one has disputed that they belong to the same art as the crown; while their affinity with the two Asiatic objects is equally impossible to ignore.

The chief aim of this Paper is now accomplished, for it has been shown that the principal varieties of inlaying met in Southern Russia in the early centuries of our era, and their transmission to Western Europe by the Goths and Gepidæ is so universally accepted that it needs no discussion here. The Goths were thus not the inventors of a new style of jewellery, but the adapters and the

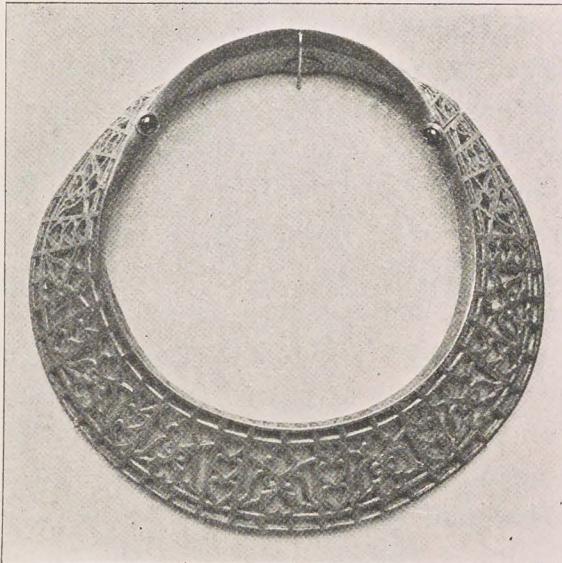


Fig. 18. Gold gorget from Petrossa.
From an electrotype in the Victoria and Albert Museum,
South Kensington.

carriers of a style which originated in another continent long before they left their Scandinavian home.

A few remarks may be added on the relation of inlaid jewellery to Roman and Byzantine art. Its earliest connection with the Roman Empire is still rather obscure. But if it had been flourishing in Persia several centuries before Christ, and in Western Scythia from the beginning of the Christian era, it is obvious that a change of taste in the direction of coloristic effect was all that was needed to insure its introduction into the Roman provinces. This change would in fact appear the moment the Roman learned to prefer the showy and brilliant to the more solid and unpretentious ornament of the past. There seems little reason to doubt that such a change had begun to take place as early as the second century, and Dr. Riegl in his recent work on late Roman art-industry in Austria,^a is inclined to claim for late Roman art, many of the most striking jewels usually ascribed to Gothic workmen. Among these are the often quoted pierced frames from Petrianecz and Szilagy-Somlyó,^b which enclose medallions of various Roman Emperors from the close of the third to the close of the fourth century, and a remarkably fine gold brooch of the fifth century found at Apahida in Transylvania. He maintains that there is nothing in the style of inlaid jewellery which is inconsistent with the traditions of late Roman art, and that inlaying was practised within the bounds of the empire quite independently of Teutonic influence. In his view, even the crowns of Guarrazar, whether actually made by Visigoths or not, show traces of late Roman or early Byzantine influence and descent. Dr. Riegl will probably develop his views at greater length in the second volume of his book, and it is therefore premature to discuss opinions which have not been stated in their final form. There certainly seems no reason why inlaid jewellery should not have been known in some parts of the empire in quite early times without any intervention on the part of the Goths or other Teutonic peoples, for it is surely possible that jewels ornamented in this way might as easily have penetrated the districts which border on Persia on the west, as the countries towards the Indian frontier on the east. Such a development, for example, would be quite possible towards Syria, which contained some of the most productive garnet mines in the world. For similar reasons it might legitimately be assumed that inlaid ornaments were made in Constantinople from the very beginning. For it is known that skilled craftsmen of all kinds were

^a A. Riegl, *Die Spätromische Kunstindustrie in Oesterreich-Ungarn*, 172-184 and 202-207.

^b Hampel, as above, 165; F. von Pulzky, *Die Goldfunde von Szilágy Somlyó* (Buda-Pesth, 1890).

invited to take up their abode in the new metropolis, and it can hardly be doubted that artificers from the northern shores of the Euxine, where as we have seen, inlaying was known long before 330 A.D., availed themselves of the profit and security which such an invitation implied. I do not know that any piece of Byzantine inlaid jewellery exists which can be attributed to the early centuries of the new empire; for perhaps few would be now inclined to follow Labarte and others who ascribed to Byzantine workmen many of the finest Western European pieces such as the

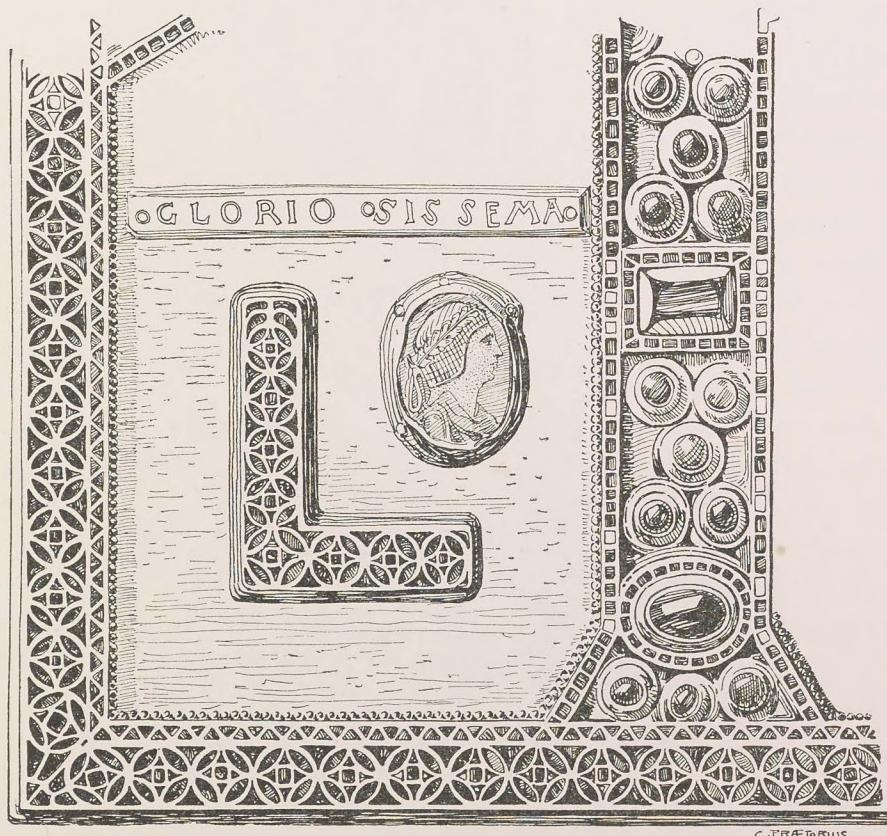


Fig. 19. Section of an inlaid gold cover for a book of the Gospels, presented by Theodelinda, Queen of the Lombards, to the Cathedral of Monza. After Bock.

sword of Childeric and the book-cover (fig. 19), presented by the Lombard Queen Theodelinda to the Cathedral of Monza.^a But although the fact is impossible to prove, there is nothing inherently improbable in the suggestion that this kind of jewellery may have been well known on the Bosphorus before the time of

^a Best reproduced by Bock, *Kleinodien des heiligen Römischen Reichs*, pl. xxxv. See also Molinier, *L'Orfèvrerie*, 9.

Justinian. For it seems certain that similar work continued to be produced in Constantinople after it had died out in Western Europe, and a good example is still preserved in a tenth century cover of a Book of the Gospels^a now in the treasury of the Cathedral of Limburg-on-the-Lahn, which is decorated with plaques of typical Byzantine enamel within borders of pearls and inlaid stones

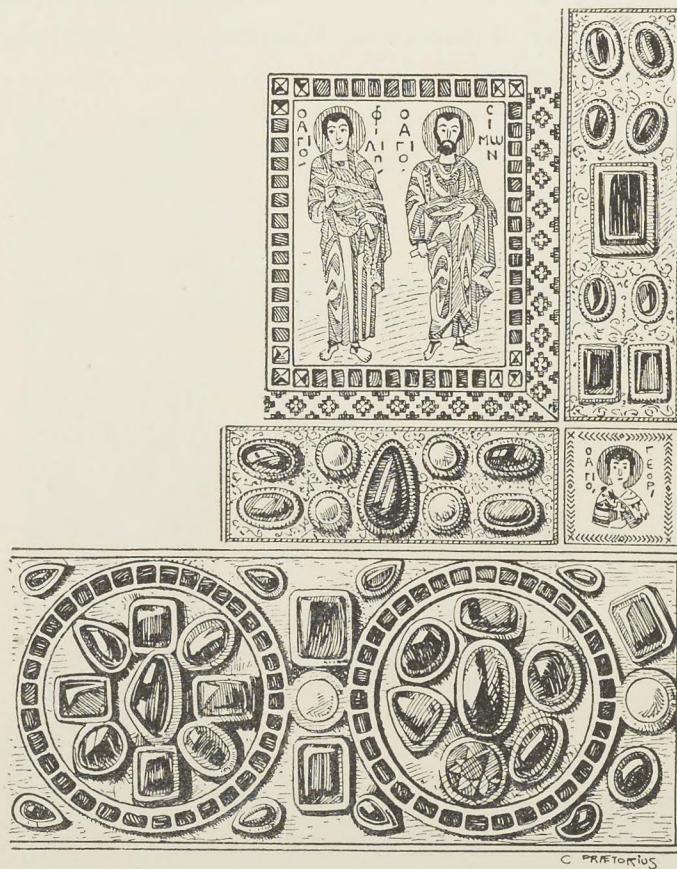


Fig. 20. Section of a Byzantine inlaid and enamelled cover of a book of the Gospels at Limburg-on-the-Lahn.
After Aus'm Weerth.

(fig. 20), and bears inscriptions with the names of Constantine VII. (Porphyrogenitus) and Romanus II., thus placing its date between 948 and 959, when these

^a Molinier, as above, 46-48; Didron, *Annales archéologiques*, xvii. 337; Aus'm Weerth, *Das Siegeskreuz des byzantinischen Kaisers Konstantinus VII. und Romanus*, plate i. (Bonn, 1866). This book-cover was brought from the sack of Constantinople in 1204 by a German knight who gave it to the nunnery of Stuben near Trèves. After the French Revolution it was taken to Ehrenbreitstein, and in 1815 became the property of the Duke of Nassau, who in 1827 presented it to the Cathedral of Limburg.

two princes were associated in the empire. It is hardly likely indeed that a style of ornamentation which was practised in neighbouring countries at so very early a date should have been altogether neglected by the goldsmiths of the metropolis, only to be adopted after the lapse of 500 years, when the barbarians of the north were discarding it as something antiquated and out of date.

The central fact in the history of inlaid jewellery is its close connection with Persia, a link which seems to have been already recognised in Europe at least as early as the seventh century. When Gregory the Great presented to Adaloald, the Lombard king and first husband of Theodelinda, the copy of the Gospels to which allusion has already been made, he sent with the book a letter describing it as enclosed in a Persia cover (*theca Persica inclusam*). Now there seems good reason to think that this *theca Persica* is no other than the inlaid book cover now at Monza to which reference has already been made,^a and that it was so called because inlaid work was commonly accepted in Europe as an *opus Persicum*, an art of Persian introduction; the term would thus be no less natural or significant than our word china, which points to the Asiatic derivation of the porcelain now manufactured in every civilised country of the west. In view of the facts brought forward in the course of this Paper there seems nothing far-fetched in such a theory. The long association with Persia of the second variety, which we have called plate-inlaying is equally well attested, and whether the two styles entered Europe together or at different times, they were united in southern Russia at any rate as early as the fourth century A.D.

In conclusion, I must express my thanks to the Director of the Victoria and Albert Museum, South Kensington, for several photographs; to Mr. F. G. Hilton-Price for the loan of the block of fig. 1A; to Professor A. H. Church for his kindness in determining the nature of the stones in the Oxus armlet and the Ahin Posh reliquary; to M. de Kieseritzky, of the Imperial Museum of the Hermitage, St. Petersburg, for showing me the wonderful collection of Scythian antiquities under his charge; and to Mr. C. H. Read not only for suggesting the desirability of some such enquiry as I have endeavoured to pursue, but also for much valuable assistance in the course of the work; indeed the views to which it gives such inadequate expression coincide in large measure with his own. Nor can I omit to mention another debt which is shared by all archæologists, and more especially by the Members of the Society of Antiquaries. The Oxus treasure, which is so important for the history of inlaying was originally purchased by Sir A. Wollaston

^a Molinier, as above, 17.

Franks, K.C.B., late President of the Society, and bequeathed by him to the nation in 1897. Perhaps it is even yet too early for us to appreciate to the full how great a loss we have suffered by his death. His long experience and remarkable archæological insight enabled him intuitively to grasp the importance of new facts while others were still sceptical or blind; and the generous support which he accorded to every branch of his favourite science will not readily be forgotten by those who have most sincerely at heart the permanent interests of archæology. It was his intention to have worked out in retirement many of the problems connected with the collections which he had brought together during his long and useful life, and we may be sure that those suggested by the Oxus Treasure would have been among the first to receive his attention. It is our common loss that his hopes were not destined to be fulfilled, and that his death removed too soon from our midst a personality equally admirable for learning, generosity, and kindliness of heart.

